Universities UK

MAY 2025

Why universities are critical to an industrial strategy

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Universities are critical to the success of a growth-driving industrial strategy, and to the sector plans, which must capitalise on the higher education sector's contributions:

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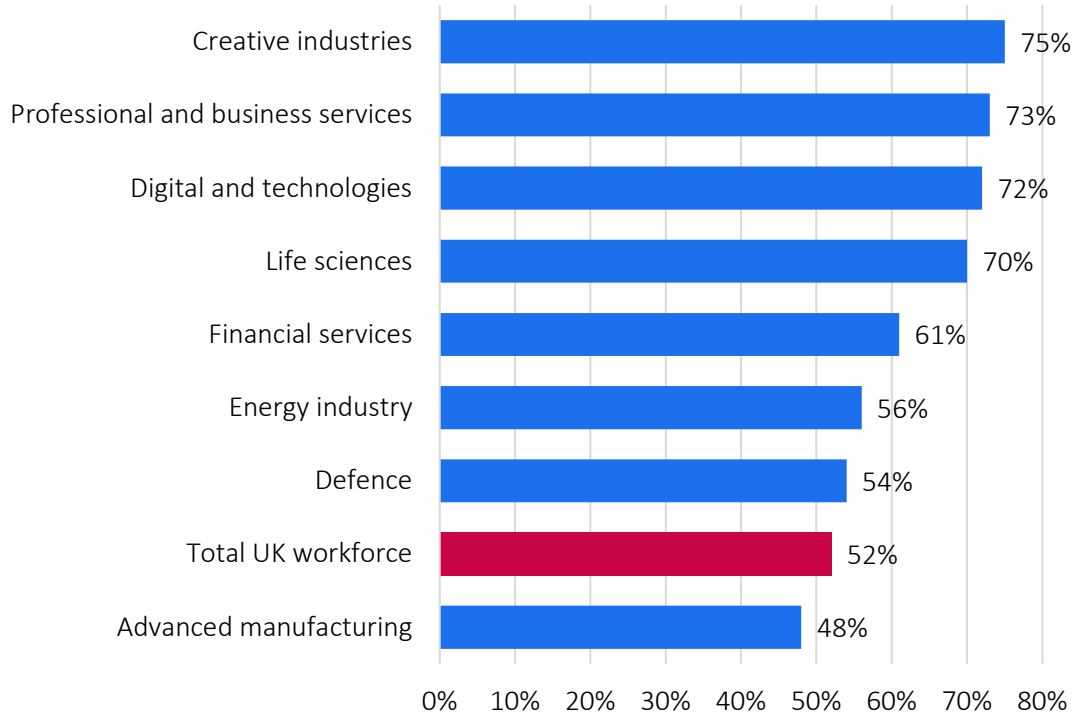
- being place makers: strengthening industrial clusters, generating spin-outs, driving regional growth and embedding the industrial strategy into local growth plans
- embedding entrepreneurial education across the curriculum and supporting entrepreneurship
- encouraging inward investment and attracting talented researchers
- strengthening research capabilities and driving the growth sectors of tomorrow

Universities stand ready to support the delivery of the industrial strategy over the next 10 years. **However, to maximise their contribution, the UK government must ensure that the higher education sector is on a sustainable financial footing.**

Developing a high-skilled workforce

The industrial strategy growth-driving sectors depend on high-level skills. In 2023, seven of the eight sectors reported a higher proportion of graduates than the UK workforce as a whole. A continued pipeline of high-skilled graduates is needed if these industries are to grow.

Percentage of graduates in workforce of growth sectors in the UK



Source: UUK analysis of ONS Quarterly Labour Force Survey (Q3, 2023)

By 2035, it is forecast that the UK economy will move towards a workforce where 61% hold a higher education qualification. At the same time, occupations requiring higher education and interpersonal skills are expected to see the most employment growth by 2035, with projections that an additional 11 million graduates will be needed.

It is crucial that the university sector has capacity to offer the degrees that provide pathways into growth-driving industries, especially across creative and STEM subjects which are costly to deliver, but are necessary for the creative, life sciences, advanced manufacturing, and clean energy sectors.

The delivery of high-cost subjects is currently supported by the Strategic Priorities Grant (SPG). **The government should ensure the SPG can best maintain and support provision of high-cost subjects, which support industrial strategy growth sectors.**

Case study: Defence industry in Plymouth

The industrial strategy's sector plans will need to consider the higher-level skills that will drive growth for their sector as well as wider infrastructure needs.

An example is the growing defence industry in Plymouth. **Babcock** have, to date, **invested £3.5 billion into the Devonport Dockyard,** which will enable the company to fulfil a contract to manufacture military equipment there until 2070. This long-standing contract will require generations of high-skilled graduates with technical skills in engineering, as well as skills in leadership and project management.

The Babcock contract will encourage workers to the region, so wider infrastructure will need to be built to support the expansion of industry, such as **housing, schools, and healthcare.** This means **graduates will also be needed** across all public services and across construction. Both **University of Plymouth** and **Plymouth Marjon** will be crucial to the supply of highly skilled graduates for the region.

An increase in higher-level skills will not only advantage the industries and companies that graduates join, but will have wider benefits.

According to government research, increased student numbers have played a pivotal role in preventing a steep decline in national productivity, through the delivery of skills. At the local level, highly skilled workers improve productivity and competitiveness in their cities and regions, through 'knowledge spillovers' between people in the same place. Each additional high-skilled job in a tradeable sector (meaning services that sell mostly outside the local economy) creates, on average, 2.5 jobs in the non-tradeable sector (meaning local services, such as restaurants and shops) and 0.4 jobs in other parts of the tradeable sector. The most productive regions of the UK have the highest proportion of graduates.

Collaborating with local stakeholders to bring coherence to skills supply

The higher education (HE) sector collaborates with the further education (FE) sector and industry to design and deliver a wide range of education provision. The industrial strategy and sector plans, alongside English devolution and local government restructuring, offer an opportunity to better encourage collaboration between industry and FE and HE providers.

Within regions, provision is most coherent when there is a shared understanding between local government, employers and skills providers of where skills gaps are, often driven by robust data. This supports an understanding of which interventions will be most effective.

Skills England has a role to play in creating this shared understanding and designing sector workforce plans that link into the industrial strategy and are responsive to English devolution. Skills England should reduce the complexity of interactions between industry and universities. Through more coordinated support, it could bring SMEs across a fragmented landscape together, to expand university–SME collaboration.

Case study: Universities in the North East of England working together

Alongside partnering with FE and industry, universities are working closely with one another in regional groupings to consider opportunity at the regional level.

One example is **Universities for North East England (UNEE),** where the five universities involved are collaborating to make one cohesive contribution to inclusive economic growth which is greater than the sum of its parts.

As part of the collective's aim to raise aspirations, the **North East Raising Aspiration Partnership (NERAP)** supports young people from under-represented groups to think about how education can help them reach their goals. This is achieved through free workshops and activities for students in Key Stages 2 and 4, with additional support for young carers or those with care experience.

Another example is **Pro:NE**, a project between all five North East universities that aims to widen access and participation for racially minoritised ethnic students and staff in postgraduate research and strengthen the pathway into academic employment. All five universities are working together to increase access for home postgraduate students of colour, with support in the areas of mental health, mentoring, development and admissions.

Pro:NE has to date received over £2.5 million in funding from the Office for Students and partner universities.

Through collaboration with industry and co-designed provision, universities already support the workforce to upskill and re-train. They do this through providing a range of qualifications, such as degree apprenticeships, accredited continuing professional development and modular education. These types of qualifications will be increasingly important as workforces shift toward the growth-driving sectors.

In 2022–23, universities provided over 3.7 million learner days of continuing profession development and continuing education, to individuals, small and medium sized enterprises (SMEs) and those sponsored by their employers.

Universities also provide degree apprenticeships with pathways relevant to the 8 industrial strategy growth-driving sectors. In the 2023–24 academic year, there were over 50,000 students on Level 6 and 7 apprenticeships (a 122% increase from 2018–19), reflecting strong student demand and employer appetite for these qualifications.

There are, however, challenges around the financial sustainability of this provision, as the current funding bands have been frozen since 2017 and no longer meet the cost of delivery. Moreover, the government are planning to limit the future funding available for Level 7 apprenticeships. This may have unintended consequences for the industrial strategy, because master's-level apprenticeships are essential to addressing both regional and national high-level skills gaps within the public and private sector across key sectors such as defence.

Case study: University partnerships with Rolls-Royce

Universities across England have **partnered with Rolls-Royce** to offer **higher and degree apprenticeships.** Apprentices at the **University of Warwick** can undertake an Electrical and Electronics degree in a Rolls-Royce state-of-the-art, purpose-built facility. Their skills contribute to the **clean energy** sector and the company's ultimate ambition of **reaching net zero carbon emissions.**

Rolls-Royce also offer degree apprenticeships at the **University of Derby** in Nuclear Engineering. Graduates on this course build the skills, qualifications and experience needed to help the **defence industry** power the UK's naval submarine fleet.

At the **University of the West of England (UWE Bristol),** apprentices can study Manufacturing Engineering and gain practical knowledge alongside earning a degree, readying themselves for a career in **advanced manufacturing.** The apprenticeship cuts across multiple growth sectors, teaching students how to continuously improve existing manufacturing processes through new technology and how to implement digital manufacturing solutions.

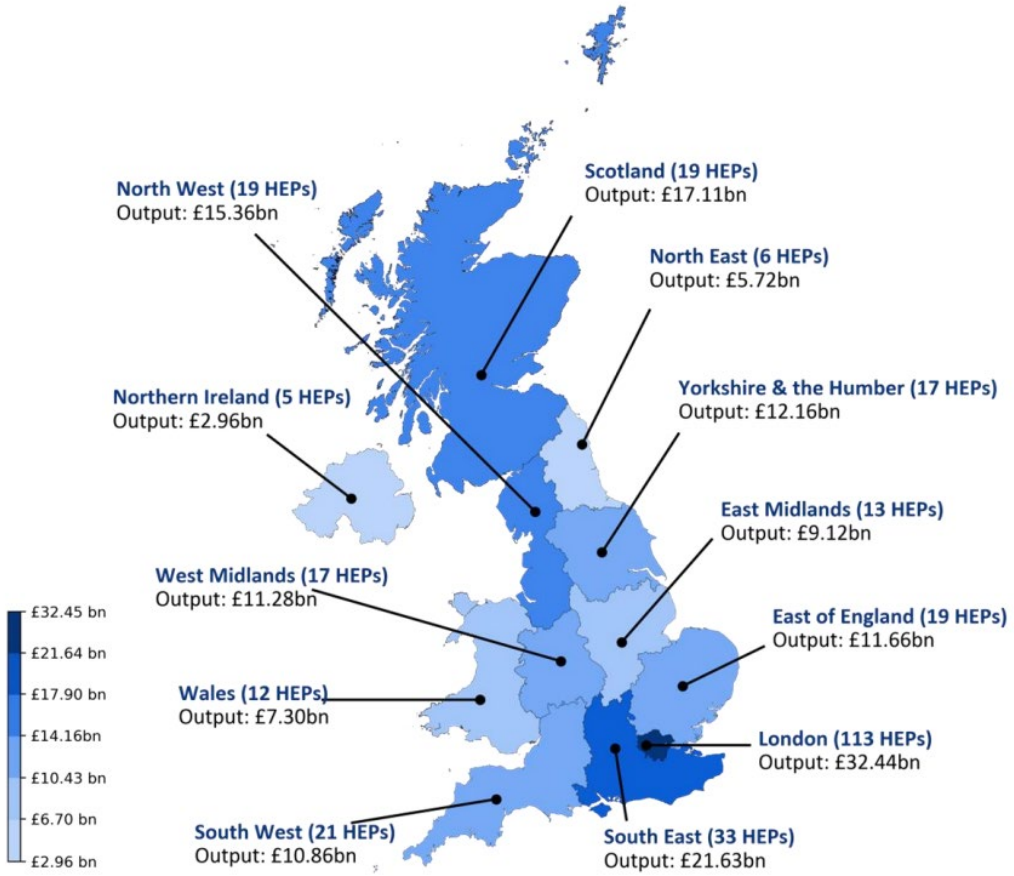
Being place makers

Driving regional growth

Universities are anchor institutions and significant local economic actors. They therefore will need to plug into the industrial strategy and sector plans if these are to achieve inclusive growth.

The total economic impact of the UK higher education sector on the UK economy is more than £265 billion. For every £1 of public money invested in the higher education sector across the UK, £14 is put back into the economy. This economic growth is felt across the whole of the UK.

Total impact of the UK higher education sector's teaching, research, and knowledge exchange activities in 2021–22, by higher education provider location



Source: London Economics for Universities UK (2024), The economic impact of higher education teaching, research, and innovation

In many regions, universities are one of the leading employers. Through hiring local residents and encouraging staff to participate in local volunteering, universities solidify their role as place makers. In 2021–22, universities supported 385,000 FTE (full-time equivalent) jobs, with an additional 382,500 jobs being indirectly created by the sector.

Mayoral Strategic Authority (MSA) structures can strengthen universities' roles as anchor institutions by deepening relationships between universities, industry and local government. However, opportunities must be offered to those outside of MSA structures, including in Scotland, Wales and Northern Ireland, where English devolution does not apply. Universities already support strategic decision-making at the local level. This includes through the design of local growth plans both inside MSAs, where this is a requirement, and outside of MSAs, where local growth planning is recommended but not obligatory. Universities also stand ready to drive growth though devolution structures, with at least 50% of our membership in England already doing so.

However, the current drive to devolution across England risks the voice and expertise of university leaders outside of MSAs being overlooked. **In order to capitalise on universities' potential to support the industrial strategy, alternative coordinating mechanisms are needed, to provide opportunities for those outside devolution structures to contribute.** This will be especially important for universities with skills and research specialisms across the growth-driving sectors who are outside mayoral areas.

Case study: Kent and Medway Employment Task Force

The **University of Kent** is working with local government and other regional stakeholders to enhance skills and innovation through the Kent and Medway Employment Task Force. It has led an initiative to develop and retain high value jobs for the County of Kent.

The university has a wide range of research specialisms, including in **cyber security, artificial intelligence, health and social care, the creative industries and logistics,** which are being used to support local businesses to become more productive. But opportunities for more substantial support for economic growth, translational research initiatives, or to pursue innovative ideas such as the Straits initiative, which engages with institutions and industry in Belgium and France across the English Channel, will be increasingly constrained by the absence of a formal devolution deal or associated funding.

Strengthening industrial clusters

Universities are uniquely placed to support both large industry partners and smaller companies, which is important given 9 out 10 businesses in the UK are SMEs. The higher education sector typically attracts high-growth companies to co-locate with universities, due to universities agglomerating talented people. In 2022–23, universities provided consultancy services to businesses over 73,200 times, including with SMEs 35,215 times.

Through established relationships, universities offer wrap-around support to businesses of all sizes to support the adoption and diffusion of innovation. This ranges from consultancy and shared facilities to incubator and accelerator programmes. In particular, they can remove barriers to knowledge diffusion, such as data silos and lack of standardisation of data, which are a concern across the defence, digital and technologies, and life sciences sectors.

Case study: Help to Grow management programme

Universities support SMEs to raise productivity through the Help to Grow Management programme (they supported over 9,000 businesses as of March 2024).

This programme has significant impact across the UK: MacMartin, a marketing agency in Derby, are just one example of a company supported through the Help to Grow programme by their local university. After a 12 month period of rapid growth, the directors joined the programme at Derby Business School **(University of Derby)** to learn how to establish processes to ensure quality and accountability. Since completing the course, **turnover has tripled, and headcount has grown by 60%.**

Case study: SME support at Lancaster University

Lancaster University had an extensive collaborative programme of support for SMEs across the North West, funded by ERDF, that focused on the **digital and data economy, net zero, healthcare and Advanced Manufacturing.** The programme **assisted over 3,000 SMEs, creating over 500 jobs and supporting almost 200 SMEs to bring new products to market.** An independent economic evaluation showed that **every £1 of ERDF returned £28.55 of additional economic benefit.** This was impacted by loss of ERDF.

Through supporting a variety of businesses, universities can also play a role in convening and connecting companies within their locality, making links between businesses of different sizes across sectors. **For example, cutting-edge sectors, including the industrial strategy growth sectors, which come together in the same place typically share a knowledge base and encourage innovations. Universities have a role to play in supporting this clustering.**

Case study: Clustering at the University of Sheffield

The University of Sheffield supports clustering across the **clean energy** and **advanced manufacturing** sectors. 6.9% of the UK's cleantech industry is clustered in South Yorkshire, where 444 companies employing 22,500 people have an estimated turnover of £19.6 billion. 3.1% of the UK's advanced manufacturing industry is also clustered in this region. 496 distinct companies employing 10,300 people have an estimated turnover of £2.4 billion.

Short-termist funds, especially since the loss of European Regional Development Funding (ERDF), create cliff-edges to programmes which are designed to support local businesses. Cliff-edges affect university capacity, risk university staff being made redundant, and are a threat to the long-established, deep relationships between universities and businesses – which take time to develop, but can be quickly lost.

Recurrent funding, including through the Higher Education Innovation Fund (HEIF), not only sustains capacity but enables universities to iterate SME-support programmes to engage businesses in hard-to-reach areas or across underrepresented demographics. **The government should ensure policy stability that allows for recurrent funding.** In addition, funding that is proven to have significant return on investment, such as HEIF, which returns £10.10 for every £1, should be extended so that universities can continue to support local industry.

Case study: Coventry University's Clean Futures programme

Universities have proven experience of iterating business support programmes to generate more focused impact. A shorter online introductory version of the Help to Grow programme for microbusinesses and start-ups (Management Essentials) launched in 2024, after feedback that the programme was too great a commitment for some businesses.

Coventry University's Clean Futures programme (funded through the Innovation Accelerator pilot) helps businesses adopt Clean Energy innovations through a 6-month acceleration process. With an extension to funding, the university are modifying their approach to recruit more SMEs across less affluent and urban areas of the West Midlands.

Despite their role as anchor institutions, awareness amongst some local leaders and businesses of what universities have to offer can be low. University–business collaboration income is still 12% below pre-pandemic levels.

The government can play a significant role in raising the profile of the university offer and should also promote close partnership between universities and businesses. The government should encourage universities to be embedded in local growth planning. This includes all nations of the UK. For their part, universities should also put themselves forward as critical partners in local growth plans and play a convening role to support join-up between these and sector plans.

Generating spin-outs

Universities across all regions and nations of the UK turn research into high-value companies. In the 2022–23 academic year, there were 2,043 active spin-outs across UK regions:

Spin-outs across the UK (2022–23)

Region/nation	Active firms	Active firms that have lasted 3+ years	Employment of active firms (FTE)	Estimated current turnover of active firms
East Midlands	77	62	975	£40,086,000
East of England	252	219	19,554	£9,184,296,000
London	372	271	6,838	£556,498,000
North East	78	55	980	£87,202,000
North West	146	100	1,131	£189,028,000
Northern Ireland	83	69	4,591	£557,594,000
Scotland	246	202	5,092	£244,895,000
South East	243	185	9,097	£1,152,296,000
South West	202	123	1,976	£96,897,000
Wales	123	109	1,018	£142,524,000
West Midlands	110	94	1,088	£86,955,000
Yorkshire and The Humber	111	82	2,008	£136,332,000
Total	**2,043**	**1,571**	**54,348**	**£12,474,603,000**

Source: Higher Education Statistics Agency (HESA) (2022–23), Higher Education and Business and Community Interaction Survey (HE-BCI)

Many of these companies operate within the industrial strategy growth-driving sectors. The top five sub-sectors for spin-outs as of January 2025 were pharmaceuticals; data provision and analysis; electronic hardware; research tools and reagents, and clinical research, with the top emerging sector being artificial intelligence. Businesses within these sectors will likely contribute to the life sciences, financial and professional services, digital, advanced manufacturing and clean energy industries.

As the table shows, the highest volume of spin-outs originate from London, the South East and the East of England. **Spin-outs outside of London and the South East struggle to access investment at all stages of the growth journey. Many are forced to relocate displacing economic impact. More widely, there is a lack of scale up support available across the whole of the UK and many companies are forced to list on the US market or abroad.**

There is an opportunity for the government to collaborate more with universities to increase investment in start-ups and spin-outs. Specifically, it should support universities in all regions to provide access to finance, pool resources and reach investors, through regional investment vehicles like Midlands Mindforge and Northern Gritstone. Both vehicles were initially supported by Research England's Connecting Capabilities Fund, and the absence of this funding now is a barrier to collaboration and the creation of similar ventures.

To ensure this investment stays in the UK, **the British Business Bank should further mobilise capital for spin-outs, particularly outside the South East, through a dedicated spin-out venture capital fund.** This would be especially effective because 97% of spin-outs receiving support from Innovate UK and the British Business Bank survive eight years after incorporation (compared to 49% receiving no support) and spin-outs with additional funding support raise more external equity capital (an average of £7.3 million, compared to £1.6 million for those not funded).

Embedding entrepreneurial education across the curriculum and supporting entrepreneurship

A successful industrial strategy will not only rely on commercialisation, but the diffusion of innovation across existing companies by students with intrapreneurial and entrepreneurial mindsets. Universities actively develop this in their student bodies in a number of ways.

The National Centre for Entrepreneurship in Education (NCEE)'s 2023 report, Driving Entrepreneurship in Education, surveyed 50 universities and found that all embedded entrepreneurship into some of their degree programmes. Outside of the curriculum, the proportion of universities providing summer schools for enterprise has doubled between 2020 and 2023 (despite the Covid-19 pandemic).

University incubator and accelerator programmes supporting enterprise have also increased. As of May 2023, the Centre for Entrepreneurs identified 269 university-affiliated incubators and accelerators. The support for university start-ups is more widely spread across the UK than it was when previously recorded by Nesta in 2017. While the largest concentration for business support is in London, there are now incubators in every region of England as well as across Scotland, Northern Ireland and Wales.

As a result, the number of student start-ups is increasing: there has been a 70% increase in active student and staff start-ups from 2014–15 to 2022–23. This matters for growth: over the past 9 years, there has been a 702% increase in the turnover of start-ups supported by universities and a 177% increase in the number of staff they employ. In the academic year 2022–23, more than 64,000 people were employed by start-ups that emerged from universities.

Case study: SENGUARD

SENGUARD, a **Glasgow Caledonian University** student start-up, is just one company featured in the Universities UK campaign: Unis start up the UK.

SENGUARD is a security subscription app built to protect people over the age of 50 online. The app provides users with internet security services, pre-emptively protecting them from scams and other online threats before any malicious software reaches their device. The student founders have found early interest from the **financial services sector** as well as the charity sector and will be scaling a launch across the UK after being awarded funding through Scottish EDGE. The co-founders are looking to the future with capacity for investment and intend to build a world-class team from highly skilled Scottish talent.

The biggest challenge to incubator and accelerator programmes is funding. Physical space, expertise, initial cash for proof-of-concept are all costly, and public funding for this activity (typically badged under knowledge exchange or innovation) has been eroded, meaning universities have to rely on core funds to support activity. Higher Education Innovation Funding (HEIF) supports university entrepreneurial activity in England, but it is just one initiative within a wider funding landscape.

While HEIF has remained a constant, the removal of European Structural Investment Funding (ESIF) has been significant for the higher education sector. Universities were typically allocated £135 million of European Regional Development Funds (ERDF; one strand of ESIF) annually. This was the equivalent of 16% of all available ERDF each year. In comparison, the sector was allocated a far smaller annual share of replacement funding – UK Shared Prosperity Funding – and just £60 million of funding in the one-year Regional Innovation Funding pilot.

The university contribution is more important, given a drop in support for enterprise in local schools (57% in 2013 to 17% in 2023) and community organisations.

The government can help by continuing to support HEIF.

Encouraging inward investment and attracting talented researchers

Universities are a key export sector, are pivotal players in attracting global talent and foreign direct investment to the UK and play a critical role in supporting global development. These are all benefits that impact across the localities, communities and regions of the UK.

However, there is an opportunity to do more to leverage the excellence and global profile of UK universities to attract foreign direct investment to the UK and into local economies, as recognised by the Harrington Review. With their research strengths and skills offer, UK universities are at a distinct competitive advantage when seeking to secure globally mobile investment.

That is why we've suggested that **the government should have a Global Strategy for Universities which would leverage the potential that universities offer by bringing together education, training, research and global development into a single strategy.** The aim would be to make strategic use of UK universities' global reputation which, in this context, could include working with the Department of Business and Trade to promote the UK's offer and to help attract further investment into the UK around the eight growth-driving sectors.

We would also urge the government to think carefully about the impact that any levy on international student fees would have on universities and the attractiveness of the UK as a study destination. Policy changes that make the UK a less attractive place to study or increase costs for universities will have knock-on impacts for the competitive strength of UK higher education exports.

Alongside this, there is also a need to attract overseas research and enterprise talent to help drive forward the industrial strategy and ensure we have the personnel to make progress in key sectors. We start from a position of strength given the UK higher education sector is already highly international, with the success of our world-class universities underpinned by the recruitment and retention of talented international staff.

However, recent increases to immigration and visa costs have meant the UK is now an international outlier when it comes to cost of moving to the UK. As research from

the Royal Society has shown, total upfront immigration costs in the UK increased by up to 126% between 2019 and 2024, and costs are higher in the UK than when compared to 17 other leading science nations – including the US, Australia, Canada, Switzerland, Japan, Singapore, and South Korea (amongst others).

That is why the government should aim to have a 'best-in-class' offer for overseas talent and benchmark immigration costs for academics, entrepreneurs and technical staff with comparable countries to ensure that the UK is well placed to attract the talent needed to succeed. Going further, the government could consider waiving the Immigration Health Surcharge (IHS) for both main applicants and dependants in certain targeted areas in the eight sectors aligned to the industrial strategy. This would represent a relatively targeted but valuable incentive to help attract overseas talent.

Strengthening research capabilities and driving the growth sectors of tomorrow

While the industrial strategy will focus on immediate growth over the next 10 years, the government must also take a long-term view beyond this timeframe, to ensure the nation's growth can be sustained well into the future.

University blue-skies research lays the foundations for future technologies and for this long-term growth. The innovations which make the current strategy and sectors viable – large language processing modules, FinTech, the Covid-19 vaccine – have all come from UK university research, over 80% of which is classified as 'world-leading' or 'internationally excellent.'

R&D is a good investment. University R&D activity drives £40 billion in the form of productivity gains for the private sector. Separate analysis shows that a 1% increase in investment in research leads to a 0.7% increase in economic growth. **This is why we are asking the government to set an ambitious R&D intensity target as a percentage of GDP to preserve the UK's leadership in science and technology.**

The research coming out of UK universities is not abstract. Academic research is highly collaborative with industry, at more than twice the global average (5.6% vs. 2.7%). This collaboration leads to research outputs that are highly influential and which drive patents: research across Clinical and Health subjects (associated with the Life Sciences sector) is cited 72% more than the global average. Not only is this beneficial for inward investment, but it speeds up the transmission and diffusion of research into industry. The Foreign, Commonwealth and Development Office (FCDO)'s Integrated Review Refresh 2023 notes that the UK is already a top five nation in innovation, AI, and cyber. This contributes to the UK technology sector's $1.2 trillion valuation, again placing it in the top three globally with the US and China.

Both industry-focused and future-facing research are enabled by quality-related research (QR) funding, which allows universities to invest in areas of research potential for the future, seed the development of new areas of research and new collaborations, and fund the training of the future R&D workforce. The flexibility that QR offers enables universities to make strategic decisions according to their missions and objectives, and work with agility, including pivoting to industrial strategy key sectors. In order to sustain crucial R&D activity, **the government must maintain QR funding in real terms.**

Case study: University spin-outs in the defence sector

The Laboratory for AI Security Research is drawing on fundamental research in mathematics, physics and computer science conducted over a thirty-year period by the University of Oxford and others.

University of Exeter's Defence Data Research Centre (DDRC) grew out of QR-funded investment in staff and facilities, and pump priming of research before research contracts and research council funding was secured.

Case study: Financial Regulation Innovation Lab

Notably, **all eight of the industrial strategy growth sectors rely on university R&D.** While the STEM sectors (life sciences, digital/tech, and advanced manufacturing) may be more closely associated with research, **university research assets are also critical to the success of the Professional and Business Services sector plan and Financial Services sector plan.**

The **Financial Regulation Innovation Lab (FRIL),** run by the **Universities of Glasgow and Strathclyde**, is a UK- and globally-recognised R&D centre of excellence. It aims to revolutionise financial regulation and address issues such as financial exclusion, financial crime, sustainable financing, SME financing and more.

FRIL creates a unique environment **to accelerate fintech innovation and adoption,** bringing together FinTech entrepreneurs, large UK and global financial and professional services firms, regulators, universities, and the third sector. It brings industry use cases together, **offering a digital sandbox to advance innovations, and is a neutral environment for regulators to be peers alongside industry.** There is proven success with this model, but funding keeps facing cliff edges and the project needs a longer-term commitment.

Universities UK (UUK) is the collective voice of the UK's universities, bringing them together to pursue a common cause: thriving universities, serving society.

Universities UK

Woburn House
20 Tavistock Square
London, WC1H 9HQ

+44 (0)20 7419 4111
info@universitiesuk.ac.uk
universitiesuk.ac.uk
@UniversitiesUK

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